Abstract
This paper discusses the performance of multicarrier CDMA technique for the next generation mobile communication system. The transmitter/receiver structure and the bandwidth of transmitted signal spectrum are analysed for the proposed systems. It defines MC-CDMA as a frequency PN pattern and MC-DS-CDMA as a straight extension of DS-CDMA; and argues that these twin asymmetric technologies are most suitable for 4G since MC-CDMA is suitable for the downlink and MC-DS-CDMA is suitable for the uplink in the cellular systems. Although MC-CDMA performs better than MC-DS-CDMA, it needs chip synchronization between users, and is therefore difficult to deploy in the uplink. Finally, the BER performance in downlink and uplink channels is shown by computer simulation.

Reference

Analytical Approach of a Multicarrier CDMA Technique for 4G Mobile Communication Systems

Index Terms

Computer Science  Wireless

Key words

Multicarrier CDMA

multipath channels

source coding

equalization

software defined ratio